TST100
Static Transfer Switch

USER MANUAL

Version 1.0

Date : Nov 2009

1. Important Safety Instruction

1.1 Safety Instruction

As dangerous voltages and high temperature exist within the equipment, only qualified and authorized maintenance personnel are permitted to open and repair it.

This manual contains information concerning the installation and operation of the TST100。All relevant parts of the manual should be read prior to commencing the installation. Please follow the local stipulation meantime.

Any operation against safety requirement or against design, manufacture, safety standard, and are out of the manufacturer warranty.

1.2 General Precaution

1.2.1 Do not expose to dust, rain, snow or liquids of any type，it is designed for indoor use. DO NOT block off ventilation, otherwise it would be overheating.

1.2.2 To avoid fire and electric shock， make sure all cables selected with right gauge and being connected well. Smaller diameter and broken cable are not allowed to use.

2. Introduction

2.1 Introduction

The TST100 Static Transfer Switch is single-phase transfer device, providing automatic switching between two independent AC power sources. It combined the STS and MTS into one unit which greatly increased the system reliability along reducing the transfer time to less than 4ms. It was suitable for important IT equipment which can not afford power disruption and ATS can not satisfy.

2.2 Feature

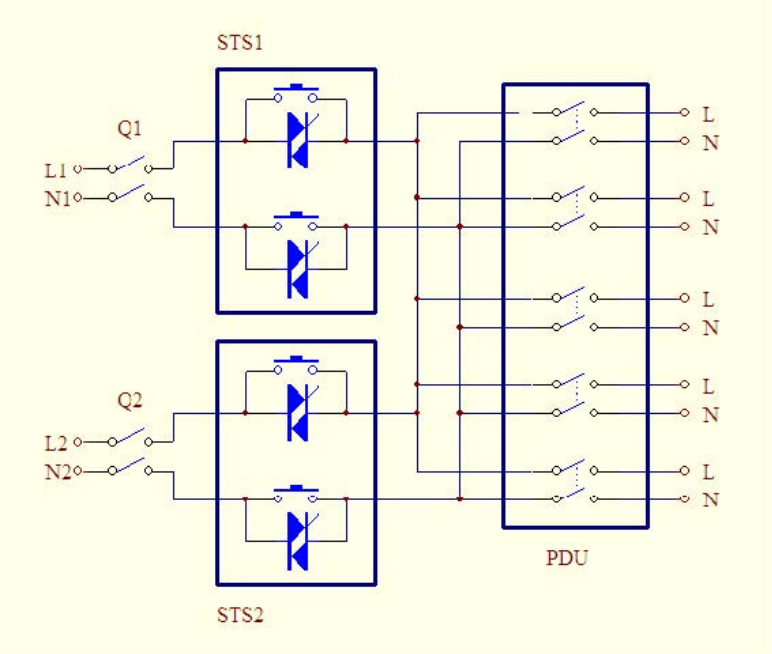
- Transfer time less than 4ms when input power are synchronization and transfer time is less than 10ms in case of input non-synchronization\
- Intelligent monitor, diagnostics and alarming
- Protection and alarm against High Voltage, Low Voltage, Power Failure and Overload.
- Overload protection: STS shutdown in case of 150% overload and will reconnect after 10s
- Shortcut protection: in case of output shortcut, system would cutout output offering protection for input power.
- User can set up either input as main and the other will be standby automatically
- Support manual select
- In case of STS fail, the system will choose one input source as fix source, to ensure uninterruptible power supply
- RS232 or RS485 communication
- Structure : 19"2U

2.3 Specification

Model	**TST120**	**TST132**	**TST150**	**TST100**
rated Amps	20A	32A	50A	100A
Dimension	19"2U (87x483x259mm -- HxWxD)			
Weight	15kgs	17kgs	19kgs	22kgs
Input voltage	220±15%			
Output voltage	220±15%			
Input rated frequency	50Hz/60Hz			
Overload Capability	150%			
transfer time	<4ms - synchronization			
	<10ms - non-synchronization			
Efficiency	>99%			
Transfer mode	Break before make			
Peak factor	.4:1			
Operation Temp	.-5C-40C			
Storage Temp	.-25C-60C			
Humidity	<93% non condensing			
Communication	RS485 + Dry contacts			

3.Principle and structure

3.1 Principle

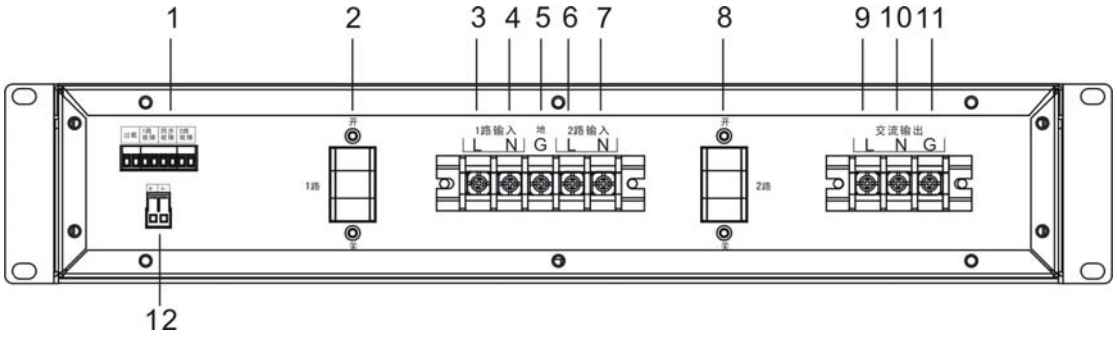


3.2 Panel and Indicators

3.2.1 Front panel

LED		Color	Status
1	Syn	Green	indicate input 1 and input 2 are in synchronization
2	Input 1	Green	input 1 normal
		Red	input 1 fault
3	Output 1	Green	output using input 1
4	Output	Green	Output normal
		Red	Output fault
5	Switch		switching between input 1 and input 2 under MANUAL condition
6	Auto/Manual		choose working mode. Under auto mode, input 1 will be named as priority automatically
7	Input 2	Green	input 2 normal
		Red	input 2 fault
8	Output 2	Green	output using input 2
9	Mute		Mute the alarm

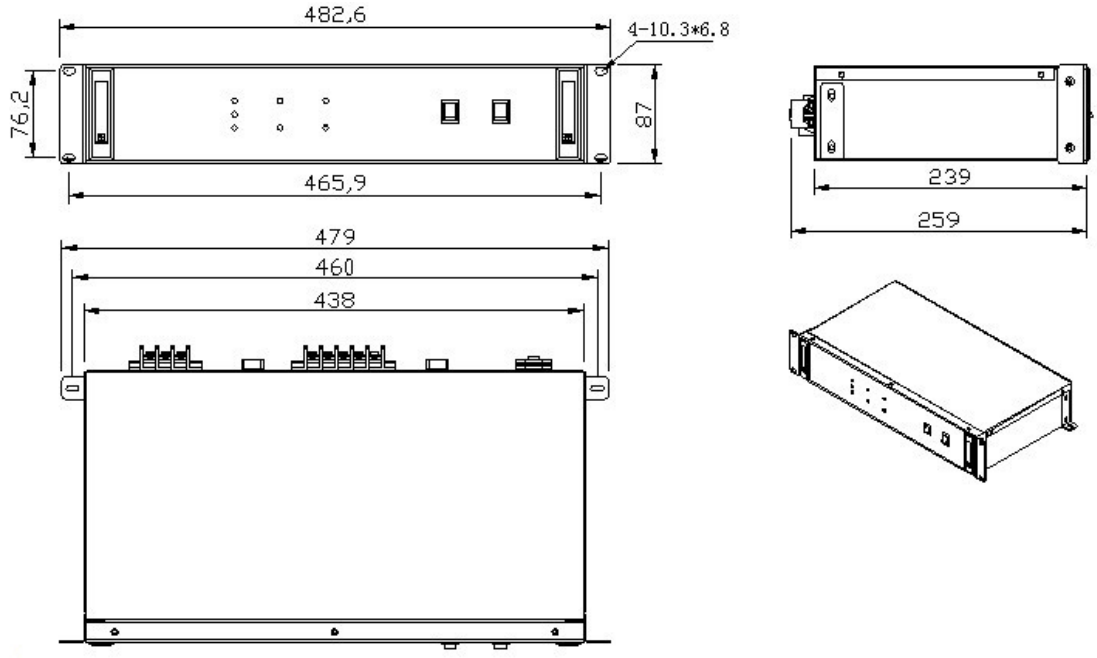
3.2.2 Rear panel



No.			Description
1	Dry contact	Left 1	Overload
		Left 2	Input 1 fault
		Left 3	Synchronization fault
		Left 4	Input 2 fault
2	Circuit breaker		Input 1 circuit breaker
3	Connector		Input 1 – L
4	Connector		Input 1 – N

5	Connector	Earth
6	Connector	Input 2 – L
7	Connector	Input 2 – N
8	Circuit breaker	Input 2 circuit breaker
9	Connector	Output – L
10	Connector	Output – N
11	Connector	Output – Earth
12	Communication port	RS485

3.3 Structure Size



4.Installation

4.1 Preparation

★ ***Only a professional electrician is permitted to install the unit.***

4.1.1 Inspection

Before installation, unit should be unpack the package and check the package contents. Keep all spare part and accessories for future use.

4.1.2 Tool, Information

Multi-meter、tool box、user manual、cable

4.1.3 Ambient Condition

Environment requirements:

- Working temperature：0-40℃
- Storage temperature：-40-70℃
- Relative Humidity：0%-95%，non-condensing
- Cooling：forced air
- Vertical angle：No vibration and hading angle less than 5 degree

Working temperature of 20~25℃ and Humidity of 50% are recommended.

Caution

The STS must be installed in a location with good ventilation, far away from water, inflammable gas and corrosive agent.

5.0 Operation

5.1 Power ON

- Double confirm the input voltage matches the voltage of this equipment, do not connect different voltage otherwise it will damage the equipment
- Check if wiring of input 1, input 2 and output are right
- After above check and everything is right, please switch on the input 1 switch and input 2 switch

5.2 Operation

5.2.1 Switch Test

- Set the auto/manual switch at manual, you can choose either input as main.
- Set the auto/manual switch at auto, the input 1 will be chose as main. Switch off the input 1 and STS will switch to input 2. Then, close the input 1 switch, the STS will resume to input 1.
- At auto position, you can not manually choose input 1 or input 2

5.2.2 Mute

System offer alarm in case of fault, you could press mute button (for 3secs) in case of alarm.

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